

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/013029 A1

(51) International Patent Classification⁷: **G05F 3/02,**
H03G 1/00, 3/00, H03H 7/24, H03F 1/30

(21) International Application Number:
PCT/IN2003/000265

(22) International Filing Date: 4 August 2003 (04.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **INDIAN SPACE RESEARCH ORGANISATION [IN/IN];** ISRO Headquarters, Department of Space, Antariksha Bhavan, New Bel Road, Bangalore 560094, Karnataka (IN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SUBHASH, Chandra, Bera [IN/IN];** Space Applications Center, Satcom

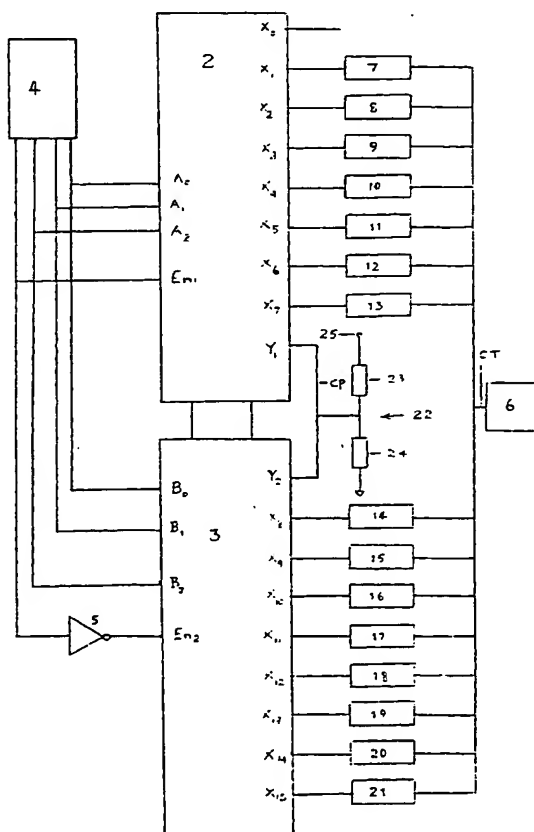
Payload Technology Area, Ambawadi Vistar Post Office, Ahmedabad 380 015, Gujarat (IN). **PRAVEEN, Subramanian, Bharadhwaj [IN/IN];** Space Applications Center, Satcom Payload Technology Area, Ambawadi Vistar Post Office, Ahmedabad 380015, Gujarat (IN). **RAJVIR, Singh [IN/IN];** Space Applications Center, Satcom Payload Technology Area, Ambawadi Vistar Post Office, Ahmedabad 380015, Gujarat (IN).

(74) Agents: **DePENNING & DePENNING et al.;** 31 South Bank Road, Chennai 600028, Tamil Nadu (IN).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: A CONTROL CIRCUIT FOR DIODE BASED RF CIRCUITS



(57) Abstract: A control circuit for diode based RF circuit (6) comprising at least one analog commutating device (2, 3) having a plurality of digital control lines (A0, A1, A2, En1, B0, B1, B2, En2), a plurality of selectable poles (X0-X15) and at one common pole (Y1, Y2), the digital control lines being connected to a digital data generator (4) and the selectable poles and at least one common pole being connected to the control terminal(s) of the diode(s) of the RF circuit through a network of resistors (7-21) of differing values and a potential divider (22) and a power supply or voltage source (25) or a network of potential dividers of differing outputs and a power supply or voltage source, the analog commutating device establishing an internal coupling between the common pole and one of the selectable poles depending upon the digital value generated by the digital data generator and appearing at the digital control lines.

WO 2005/013029 A1



(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.